

In this section we provide a summary of our baseline evaluation of the existing Green Infrastructure assets of the Knowledge Quarter, overlaying functionality mapping with urban design considerations.

3. A Changing Landscape

3.1 Mapping functionality

Functionality mapping is at the heart of the approach to evaluating the existing Green Infrastructure it will inform future planning to enhance functionality, meet needs and derive benefits.

Functionality mapping of the Green Infrastructure of the Knowledge Quarter was carried out by the Mersey Forest Partnership. The aim of the mapping is to inform better planning of Green Infrastructure in order to deliver the widest possible range from the eleven benefits identified by Natural Economy Northwest.

The mapping forms part of the protocol that has been developed for the North West of England and as set out in the North West Green Infrastructure Guide. This consists of a five step process:

1. **Partnerships and priorities:** Understanding the partners required to plan and deliver Green Infrastructure;
2. **Data audit and current resource mapping:** Checking and collating data sources required to analyse the existing Green Infrastructure;
3. **Functionality assessment:** Spatial mapping in order to identify gaps in physical or functional provision;
4. **Needs assessment:** To what extent the Green Infrastructure meets the needs of communities and sustains environmental quality;

5. **Intervention plan:** Creating an intervention plan describing investments to protect, improve and provide Green Infrastructure.

This five step process initially engages partners and looks to identify the key green infrastructure priorities for the area.

Mapping of the Green Infrastructure types in the project area (see following pages) allows us to consider what functions and benefits the Green Infrastructure is providing now prior to redevelopment and, by carrying out the same exercise using the Framework plan, we can compare the two situations and analyse the results. This can then be used to inform adjustments to the Framework plan and to try to maximise the benefits from Green Infrastructure, particularly where it will help to deliver key objectives for the Quarter.

Analysing the present Green Infrastructure types, their extent and functionality shows that, based on the Climax Plan without enhanced Green Infrastructure, there would be a net loss of Green Infrastructure extent and functionality. The response to this could be to accept some loss on the basis that the development overall, with improvement of the urban environment

and the need for restructuring of the land uses, on balance delivers the key objectives for the redevelopment of the area.

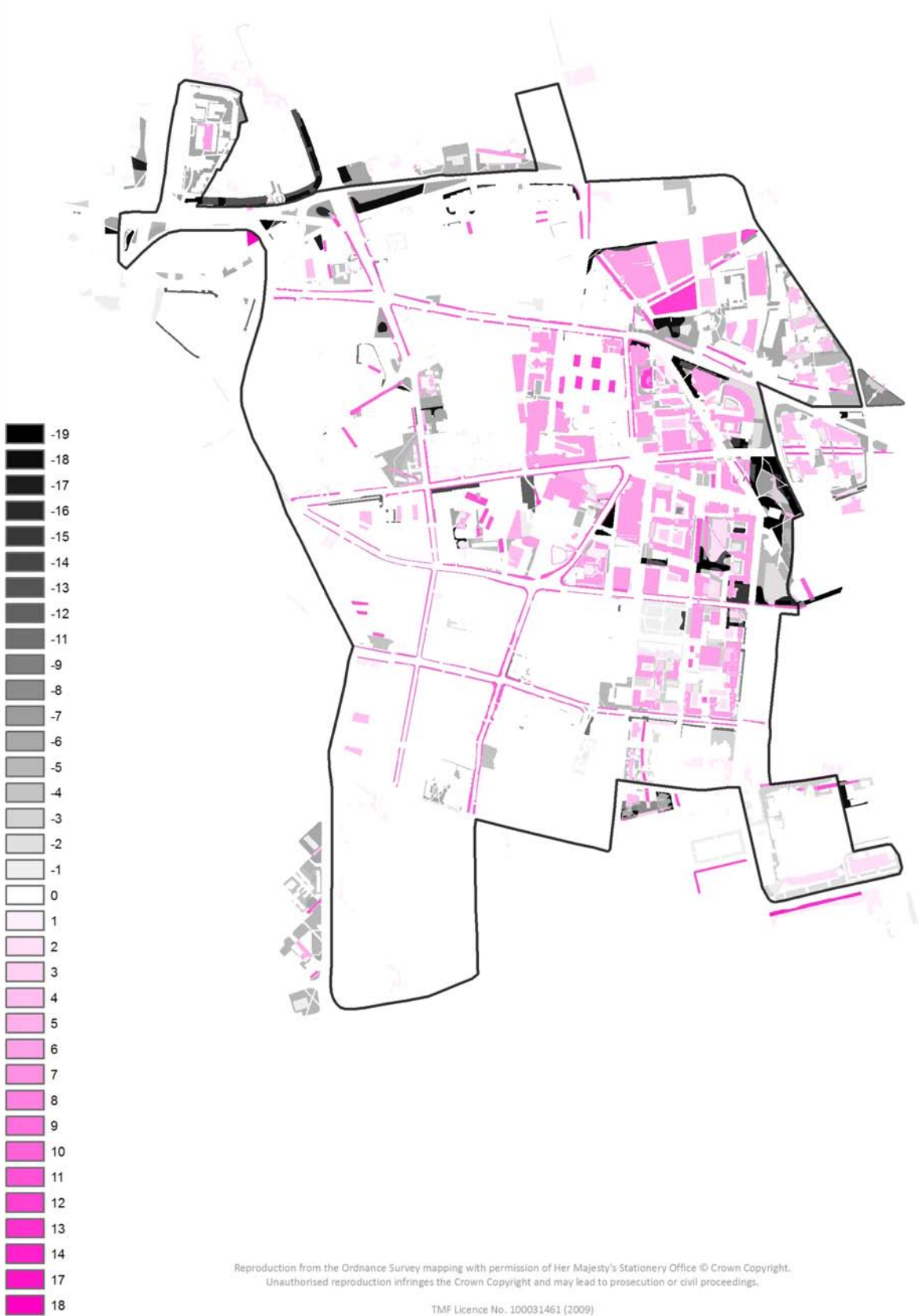
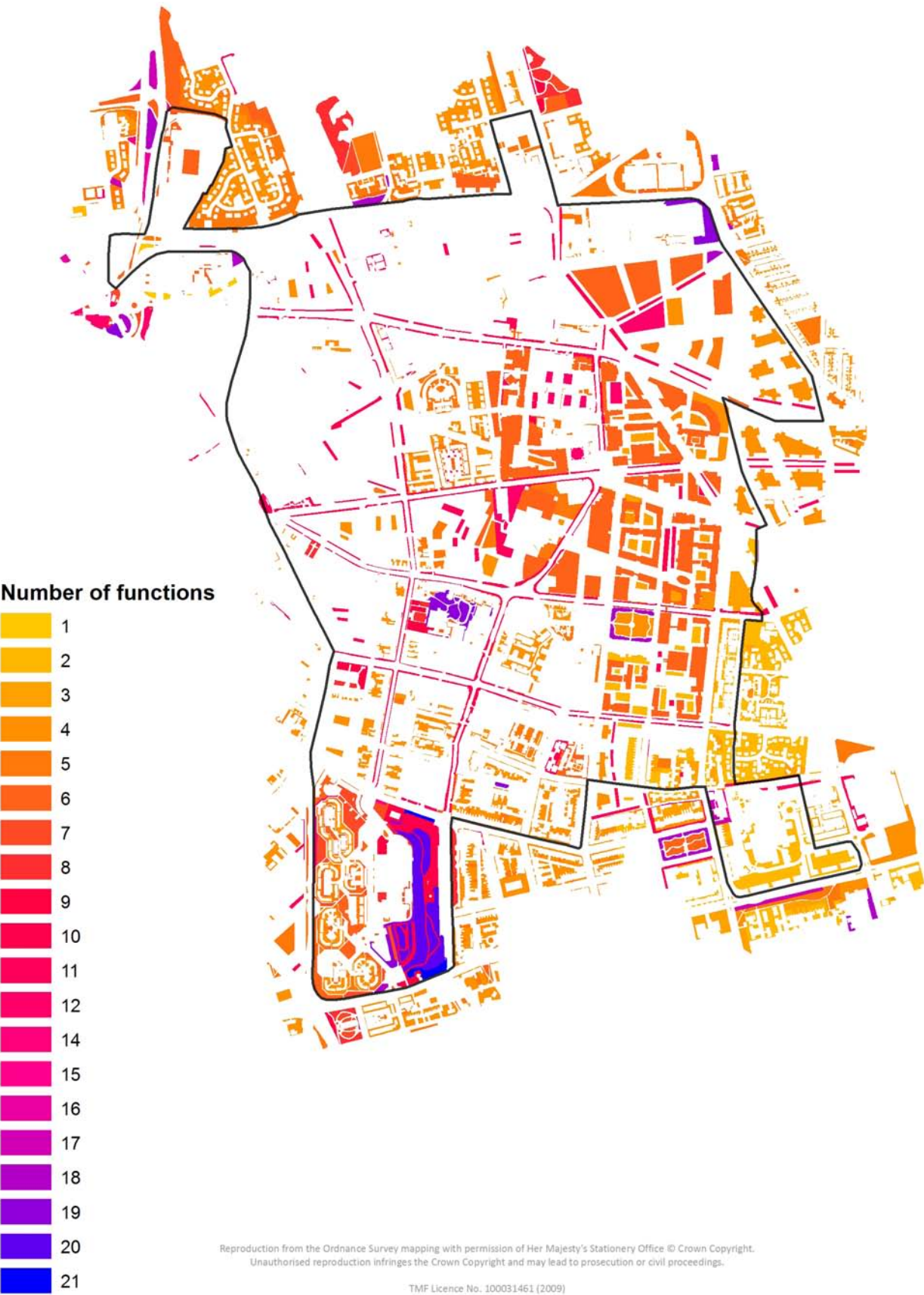
Alternatively, this can be used to inform the creation of an amended plan for an enhanced Green Infrastructure for the area so that the benefits can be maximised. The plans set out in this document illustrate how the improved public realm could be complemented by enhanced Green Infrastructure provision, in turn contributing to the key objectives for the area.

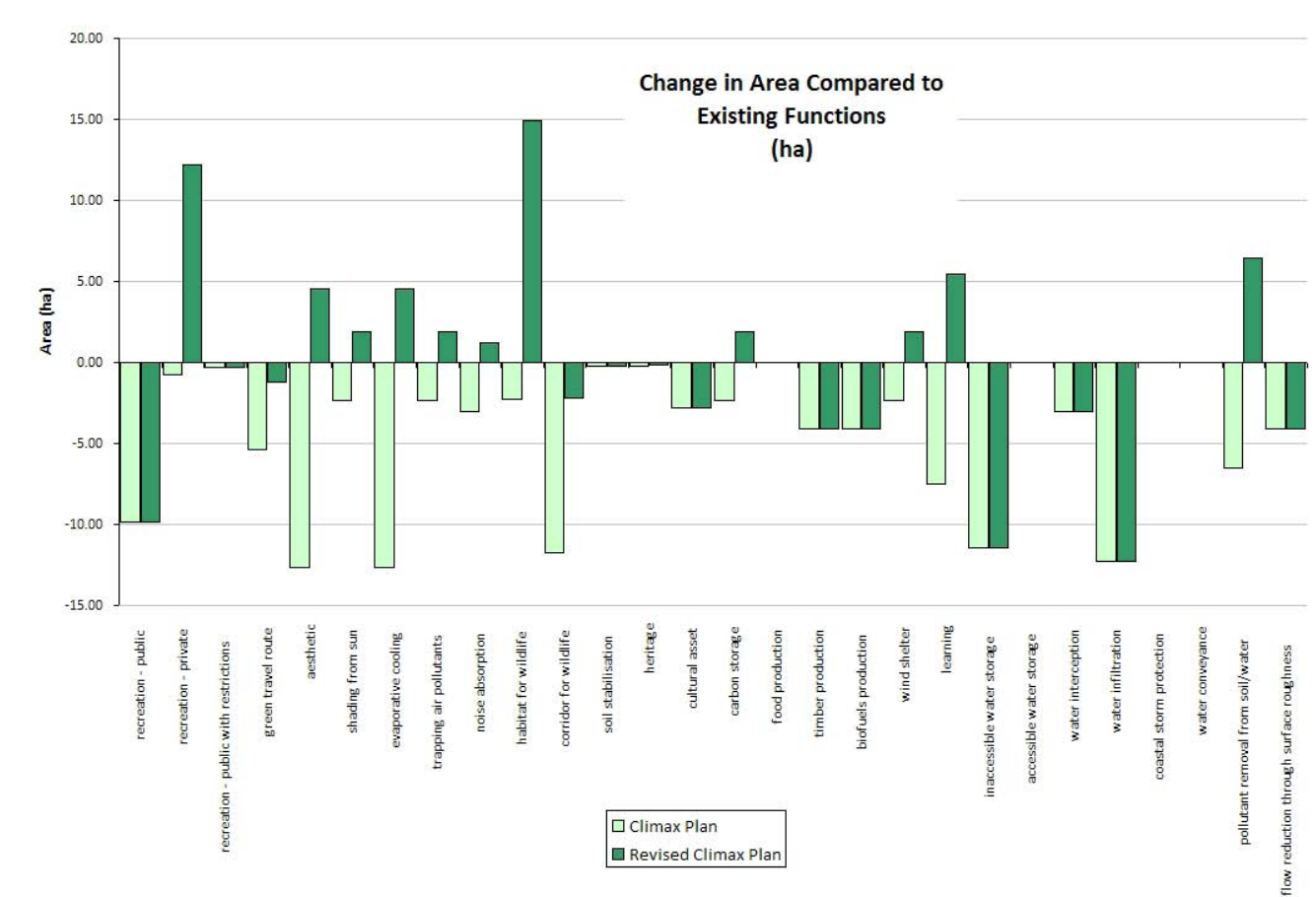
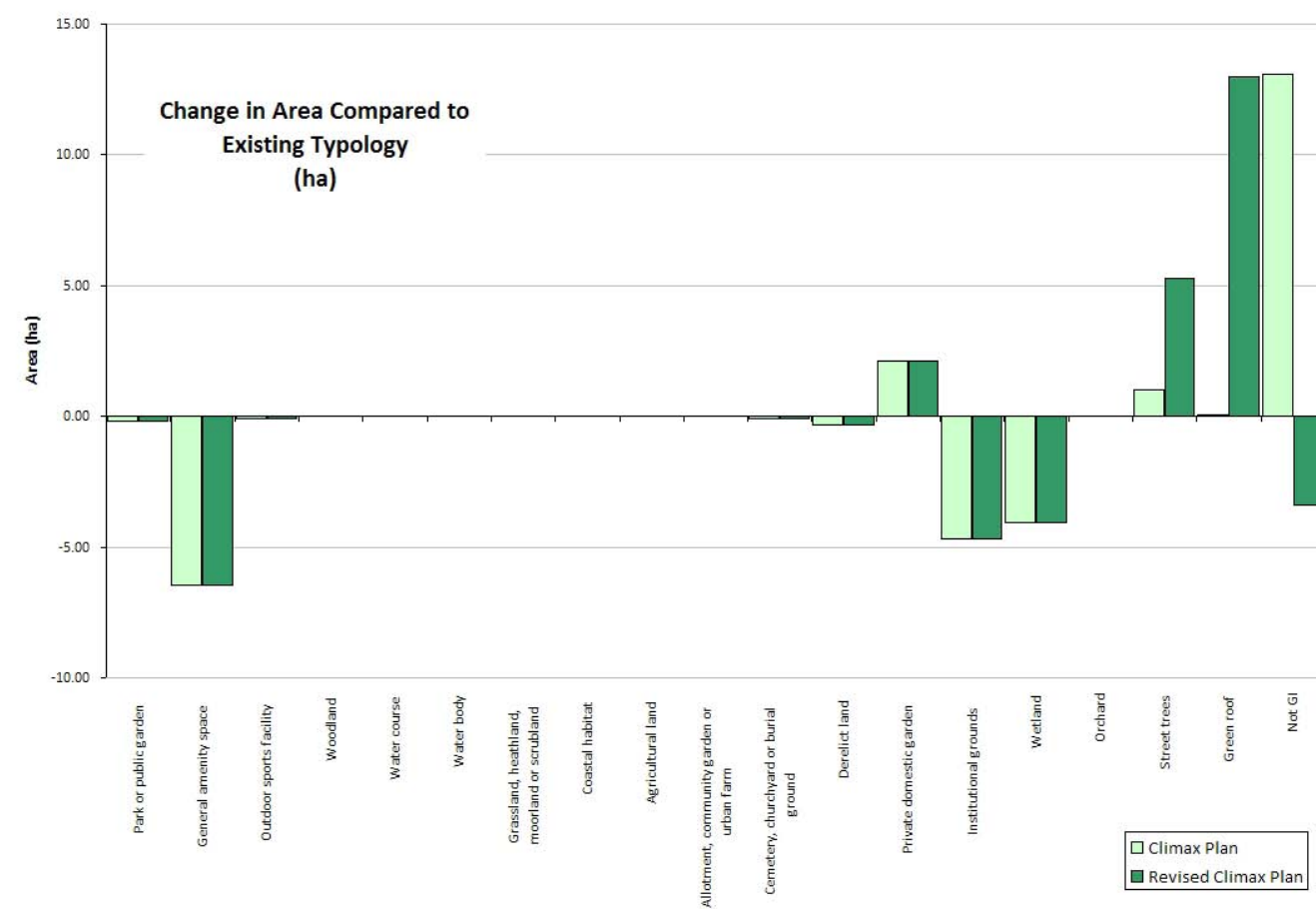
Recognising the limitations of a desk-based analysis of functionality we have sought to tailor the approach based on site visits in order to understand this potential for dynamic changes in land uses within a regeneration area. In particular the assignment of spaces to each of the typologies required further refining, and we have augmented the scoring with an urban design evaluation of the existing Green Infrastructure – taking into account the need to accommodate changes in land use. The results of this evaluation are described in Section 3.2.

The three part plan for enhanced Green Infrastructure set out in this appendix completes the five step process, setting out an intervention plan for the Quarter. Having assessed and analysed the present situation, the proposed interventions have been aligned to the regeneration needs and objectives of the area. They set new benchmarks for functionality, as demonstrated by best practice from other towns and cities that has aligned to the emerging evidence base for the benefits of Green Infrastructure.

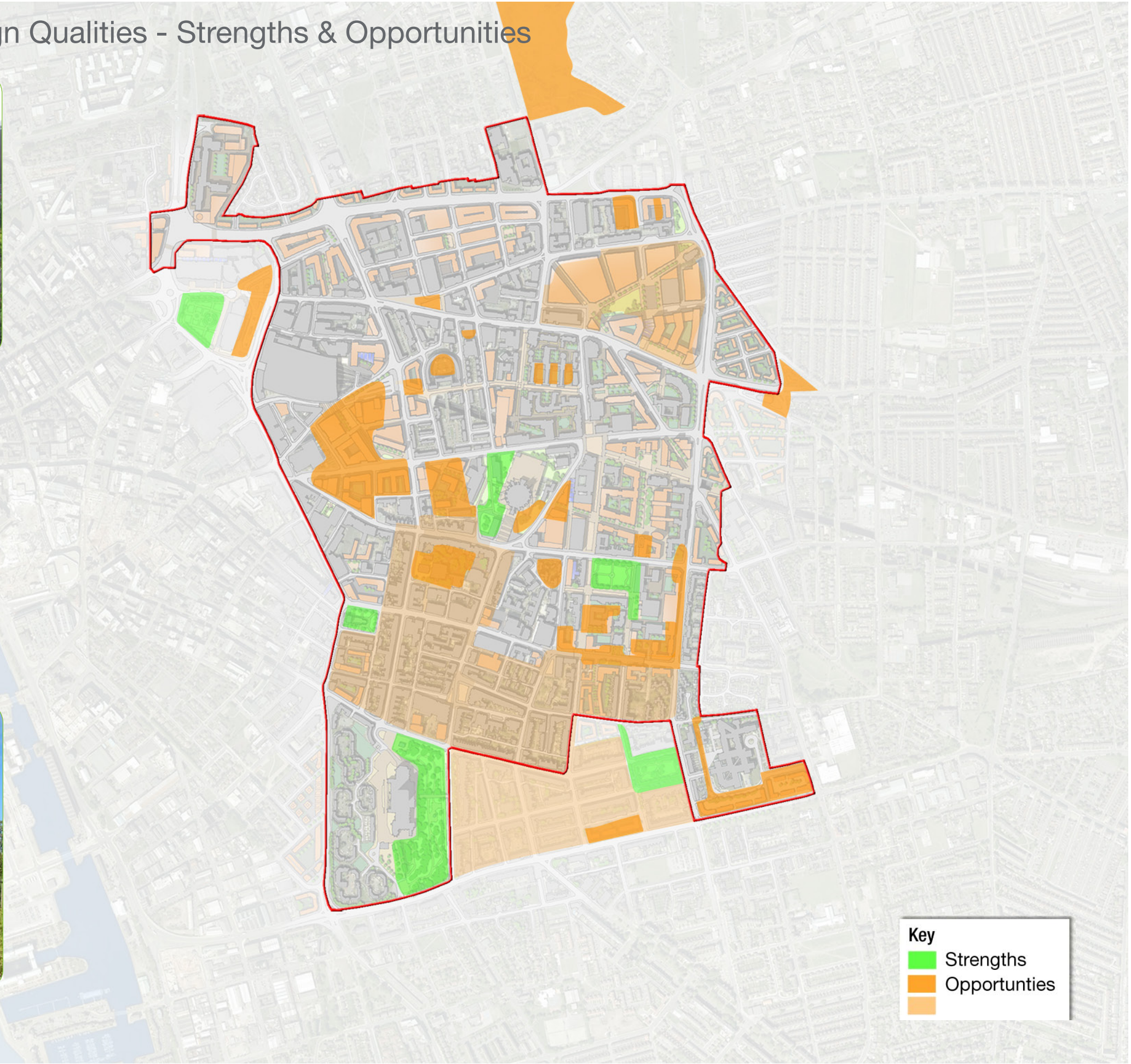
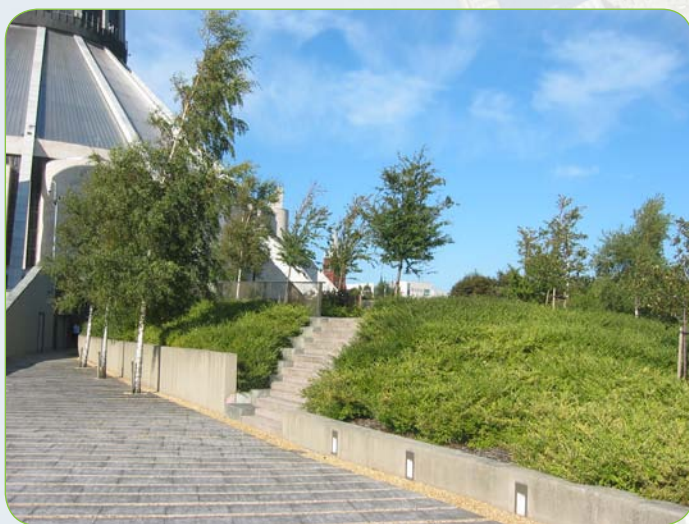


Revised Climax Plan GI Multiple functionality and Change in Multifunctionailty





Contributing to Urban Design Qualities - Strengths & Opportunities



Key

- Strengths
- Opportunities

3.2 Urban Design Evaluation

Our site survey of the existing Green Infrastructure highlighted the need to determine whether individual elements complement or detract from the aims of the Climax Plan and to identify and protect important assets.

A detailed site survey was carried out of the Knowledge Quarter. The aim was to review the Green Infrastructure assets of the quarter as identified by the functionality mapping and the Framework plan. The survey evaluated each existing Green Infrastructure element against the following criteria:

- **Urban design and townscape value:** To what extent does the Green Infrastructure element function, or have the potential to function, within the proposed urban design framework for the Knowledge Quarter?
- **Meeting new and existing needs:** To what extent does the Green Infrastructure element contribute to, or have the potential to contribute to, meeting existing or future needs of the Knowledge Quarter?
- **Green Infrastructure value:** To what extent does the Green Infrastructure element provide sufficient intrinsic functionality that it warrants protection and enhancement as part of the Knowledge Quarter plan?

Based on the findings of the survey and evaluation we have been able to broadly group the existing Green Infrastructure assets into the following five categories, each of which can be used to inform how the Knowledge Quarter and site development briefs are taken forward:

New Green Infrastructure exemplars

There are a number of examples of new Green Infrastructure investments that provide exemplars for elements of the wider plan. These include the green roof of the Cathedral visitors centre, the adjacent Wilderness garden and car park, and elements of new landscape interventions in and around University buildings on Chatham Street.

A number of interventions dating back to City Challenge in the later 1980's to early 1990's were also identified. The street trees in and around London Road and Anson Street have matured well, and create a strong streetscape. The use of bitmac to repair damaged drainage grills around the trees does, however, highlight the need to address public realm management.

Heritage and biodiversity assets

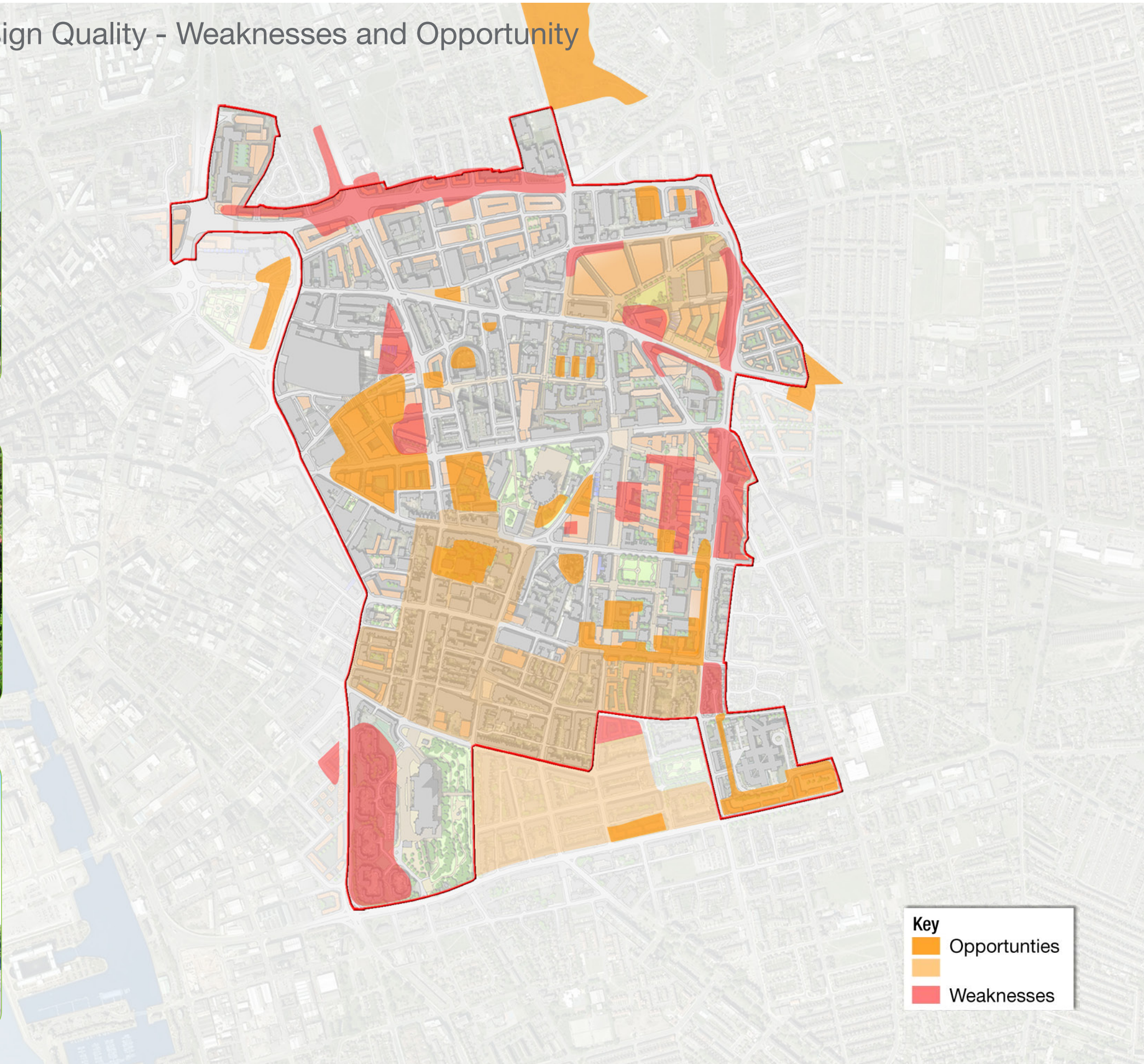
There are a number of parks, gardens and streets that form part of the distinct Green Infrastructure heritage of the quarter dating back over a century. These include the formal parks and gardens of Falkner and Abercrombie Square and

the surrounding Georgian Streets many of which have later had street trees added to them.

St James's Gardens is the most significant heritage and biodiversity asset of the quarter, and includes St James' Mount – Liverpool's first public park dating from 1767. The restoration of the Gardens, championed by the late Tony Bradshaw, did much to increase its biodiversity value. The quarter has a rich history of botany dating from William Roscoe's establishment of the Liverpool Botanical Collection on Myrtle Street in 1803.



Detracting from Urban Design Quality - Weaknesses and Opportunity



Key	
Orange	Opportunities
Red	Weaknesses

3.2 Urban Design Evaluation

Poor urban design value or out of context

A significant proportion of existing Green Infrastructure in the Quarter has relatively poor urban design value. This is largely due to ad hoc development and associated planting. For example, in order to screen relatively temporary uses such as surface car parking or to provide landscaping to sites that have been allocated for development. In addition the tree species or combinations of planting may not always be appropriate for retention.

These existing Green Infrastructure elements tend not to relate well to proposed building lines, or create spaces or desire lines with poor surveillance. In some cases they could become an asset if the layout was to be designed in such a way as to retain the Green Infrastructure element. For example, there may be scope to retain lines of trees, but only where the building line can be set back and the canopy would work as a line of street trees. There are a number of examples of this along the perimeter of University car park sites and at major road junctions.

Underprovided streets and spaces

Streets and areas were identified which were found to be 'impoverished' of Green Infrastructure, therefore requiring intervention to introduce a natural element and raise their quality. This included many of the major through routes such as Brownlow Hill, Russell Street and Clarence Street and minor connecting streets such as Dansie Street.

The Royal University hospital and a number of new student residences provided examples of buildings that were under provided with complementary Green Infrastructure. The hospital complex is served by a single poorly designed greenspace dominated by car parking. Views into courtyards in new student residences tended also to be dominated by car parking, providing limited inspiration for studying.

'Set aside' temporary spaces

A range of what might be considered to be 'fallow' or 'set aside' spaces were also identified. These generally related to brownfield sites allocated for major future development. These had been sown or colonised by species of grasses, but have very poor compacted ground cover. In these instances the rainwater infiltration provided by the site could be substituted by a requirement to provide equivalent green roof capacity on new buildings.

